

Europäisches Patentamt  
European Patent Office  
Office européen des brevets



(11) EP 0 836 218 A3

(12) EUROPEAN PATENT APPLICATION

(88) Date of publication A3:  
16.09.1998 Bulletin 1998/38

(51) Int Cl.<sup>6</sup> H01J 37/34, H01J 37/32

(43) Date of publication A2:  
15.04.1998 Bulletin 1998/16

(21) Application number: 97307864.5

(22) Date of filing: 06.10.1997

(84) Designated Contracting States:  
AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC  
NL PT SE  
Designated Extension States:  
AL LT LV RO SI

(72) Inventors:  
• Edelstein, Sergio  
Los Gatos, California 95030 (US)  
• Subramani, Mani  
San Jose, California 95135 (US)

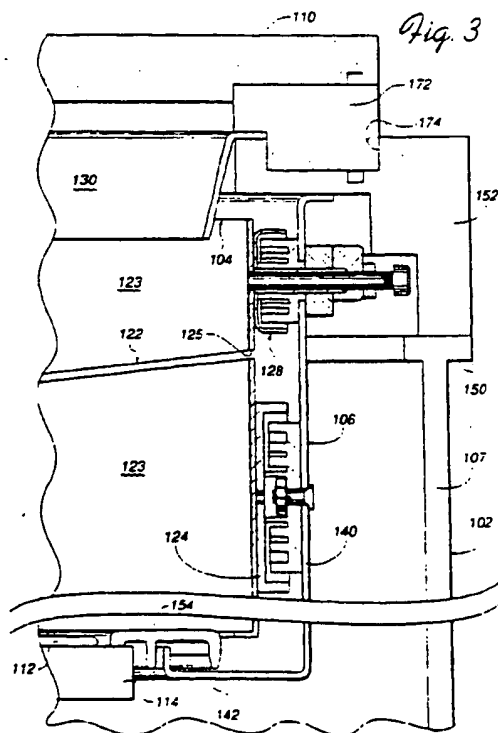
(30) Priority: 08.10.1996 US 730722

(74) Representative: Bayliss, Geoffrey Cyril et al  
BOULT WADE TENNANT,  
27 Funnival Street  
London EC4A 1PQ (GB)

(54) Active shield for generating a plasma for sputtering

(57) A combination coil and shield (104) for a plasma chamber (100) in a semiconductor fabrication system is provided. The coil-shield has a plurality of turns

to couple energy efficiently into a plasma and also substantially blocks deposition material from reaching a second shield (106) positioned behind the first shield



European Patent  
Office

## EUROPEAN SEARCH REPORT

Application Number

EP 97 30 7864

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
D, P. X	EP 0 774 886 A (APPLIED MATERIALS INC) 21 May 1997	1, 4-6, 10-12, 15-17, 27-30	H01J37/34 H01J37/32
P, Y	* page 5, line 33 - page 6, line 50 * * page 7, line 49 - page 8, line 46; figures 3, 6, 7 *	19.20	
Y	US 4 568 845 A (UEHARA KENJI) 4 February 1986 * column 3, line 11 - line 26; figure 3 *	19.20	
A	EP 0 593 924 A (LEYBOLD AG) 27 April 1994 * column 2, line 35 - column 3, line 40; figure 1 *	1, 10, 27	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			H01J
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
THE HAGUE		17 July 1998	Schaub, G
CATEGORY OF CITED DOCUMENTS			
X particularly relevant if taken alone Y particularly relevant if combined with another document of the same category A technological background O non-written disclosure P intermediate document		T theory or principle underlying the invention E earlier patent document but published on or after the filing date D document cited in the application L document cited for other reasons d member of the same patent family, corresponding document	

EP 0 836 218 A3 (1998) (1998)